

Chemical structure of the hybrid molecule, Endomorphin II-Substance P7-11. The structure shows a long peptide chain with various side chains, including a morphine ring, a phenol, a benzyl group, a benzyl group, a benzyl group, a benzyl group, and a thioether group. Below the structure, two arrows indicate the regions corresponding to Endomorphin II (from the N-terminus to the first benzyl group) and Substance P7-11 (from the first benzyl group to the C-terminus).

FIG. 1

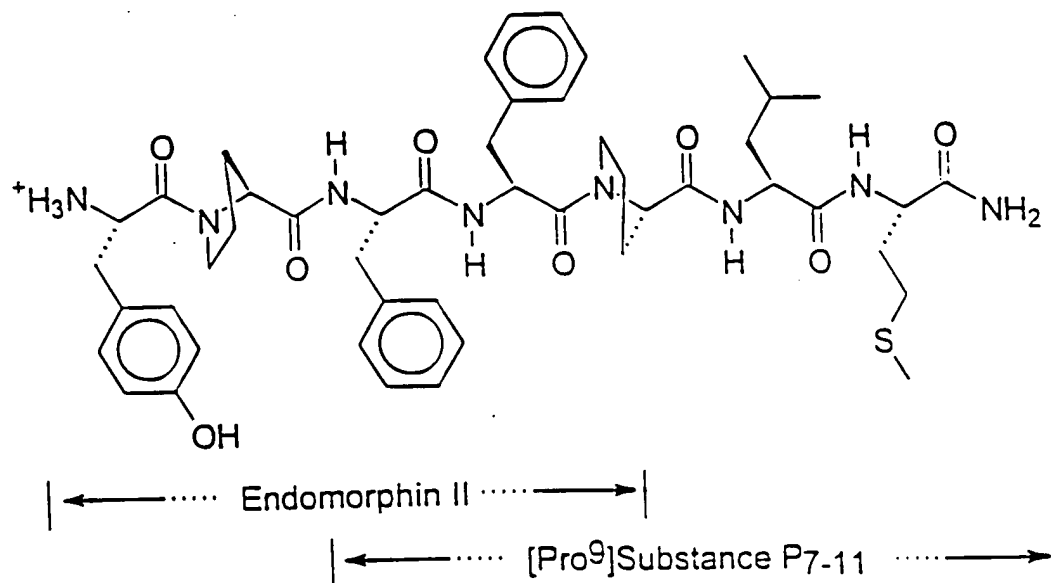


FIG. 2

Binding of ESP7 to the Mu Receptor

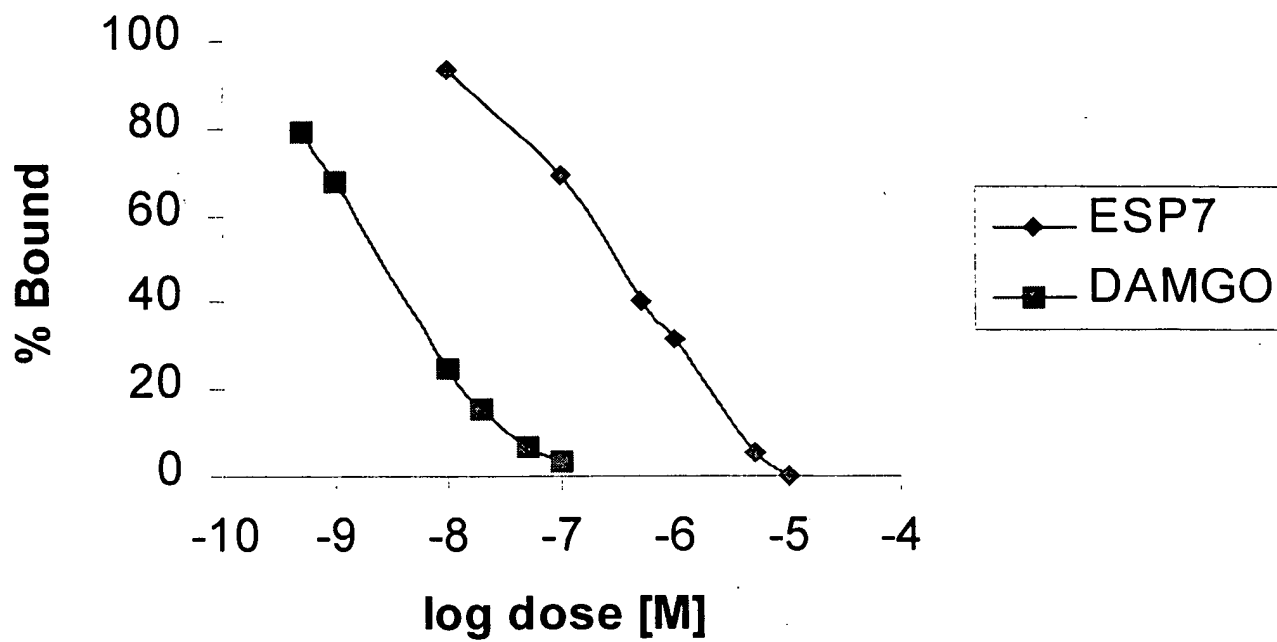


Figure 3

668207" 26382460

665207" 26582460

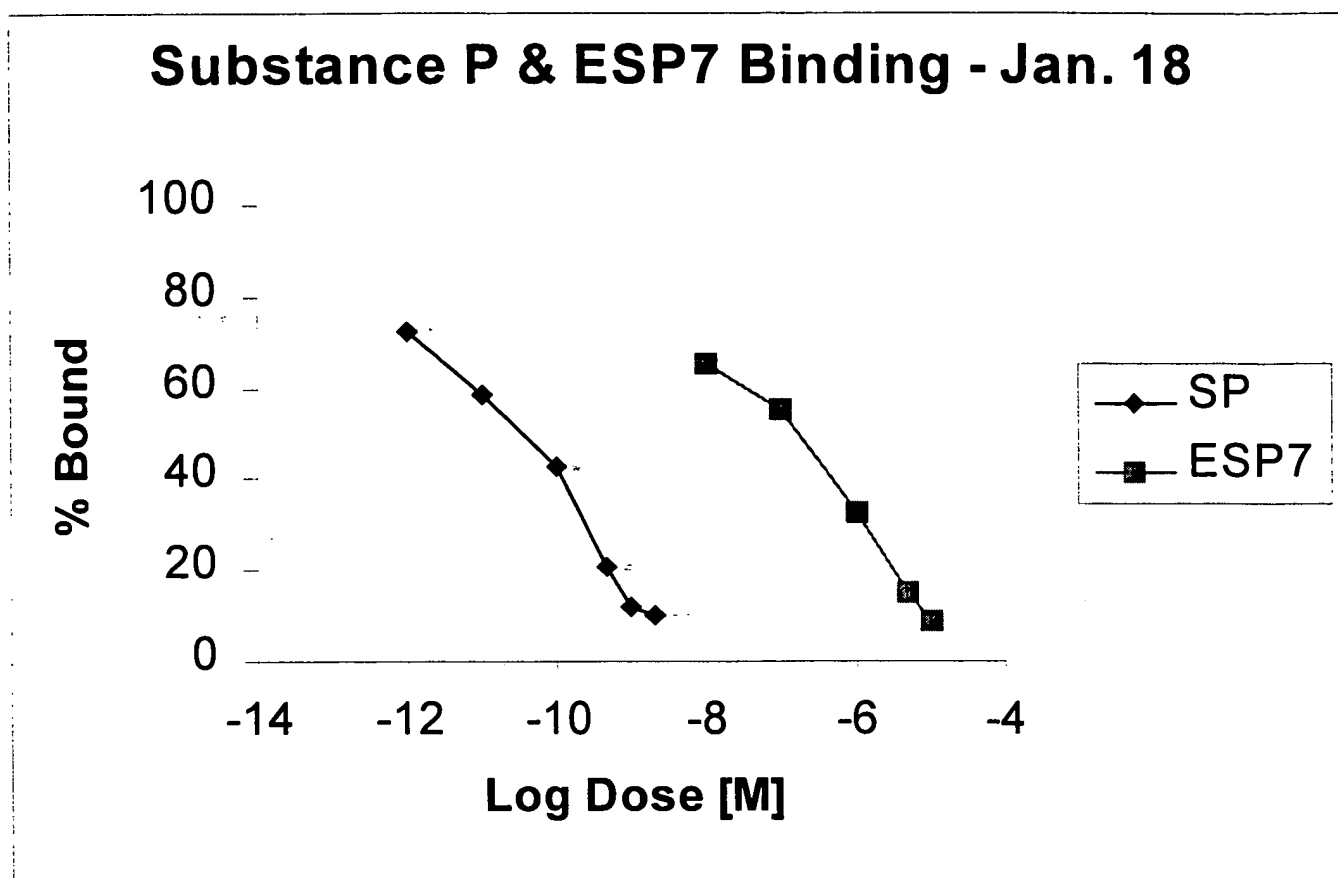


Figure 4

Intrathecal Administration

1.0 ug ESP7+2CD (n=5)

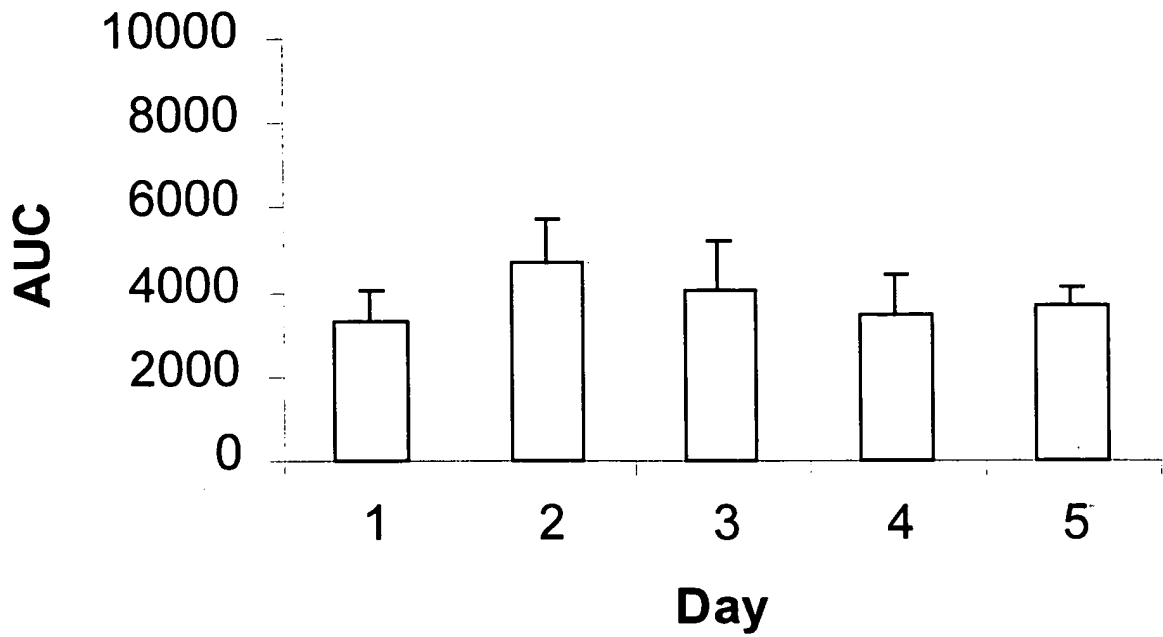


Figure 5.

0.2 ug ESP7+2CD (n=8)

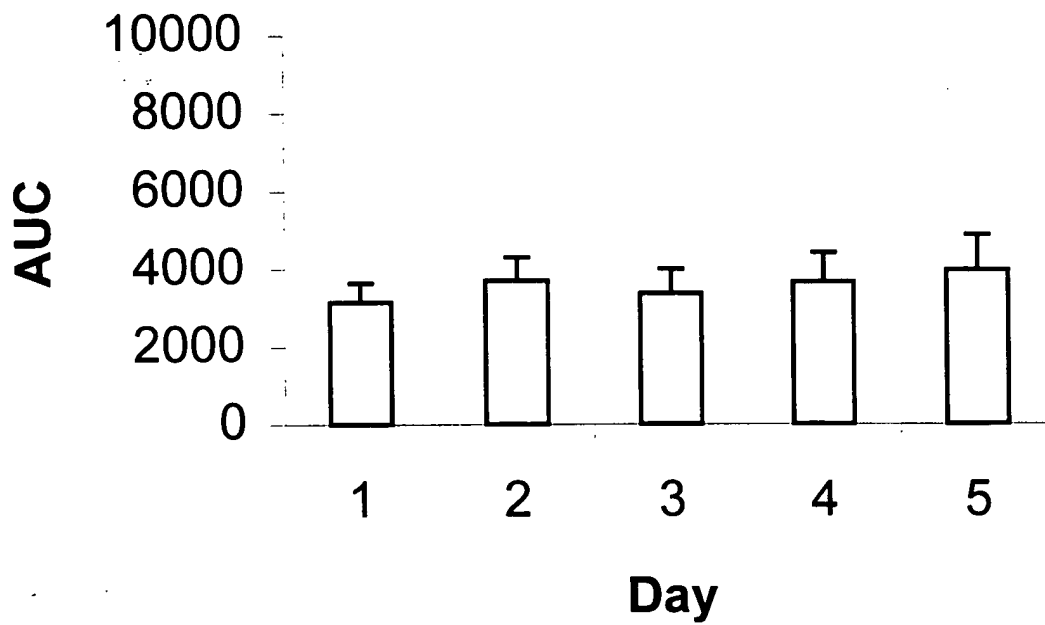


Figure 6

0.05 ug ESP7+2CD (n=6)

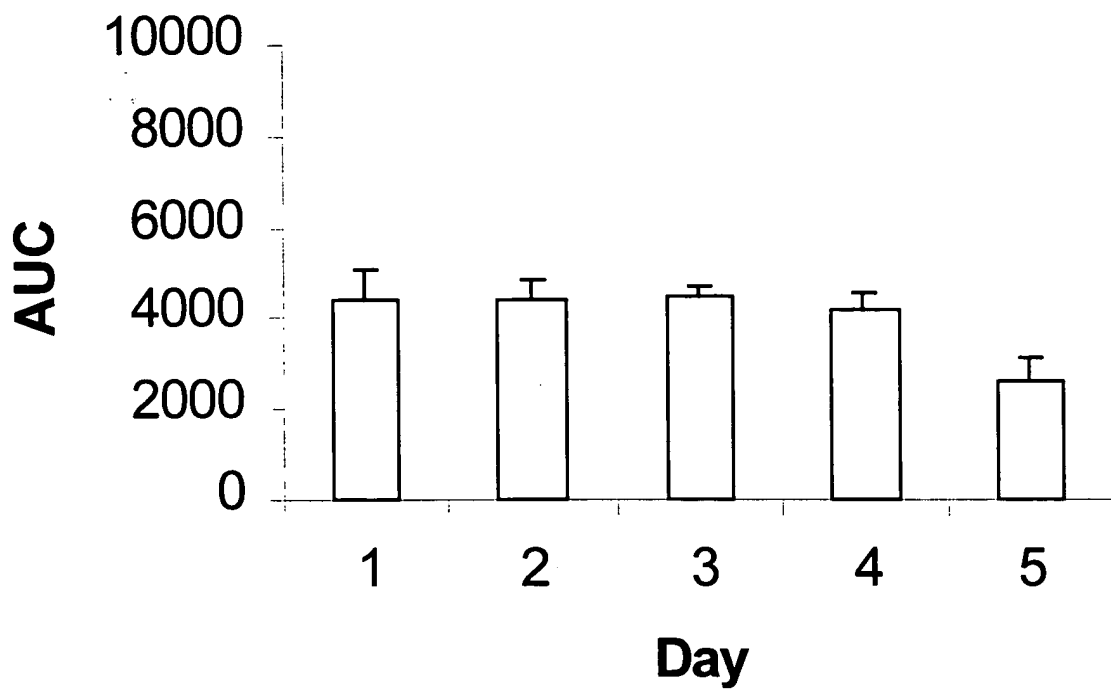


Figure 7

**0.2ug ESP7+2CD - 0.2ug naltrexone
(Days 2&4)**

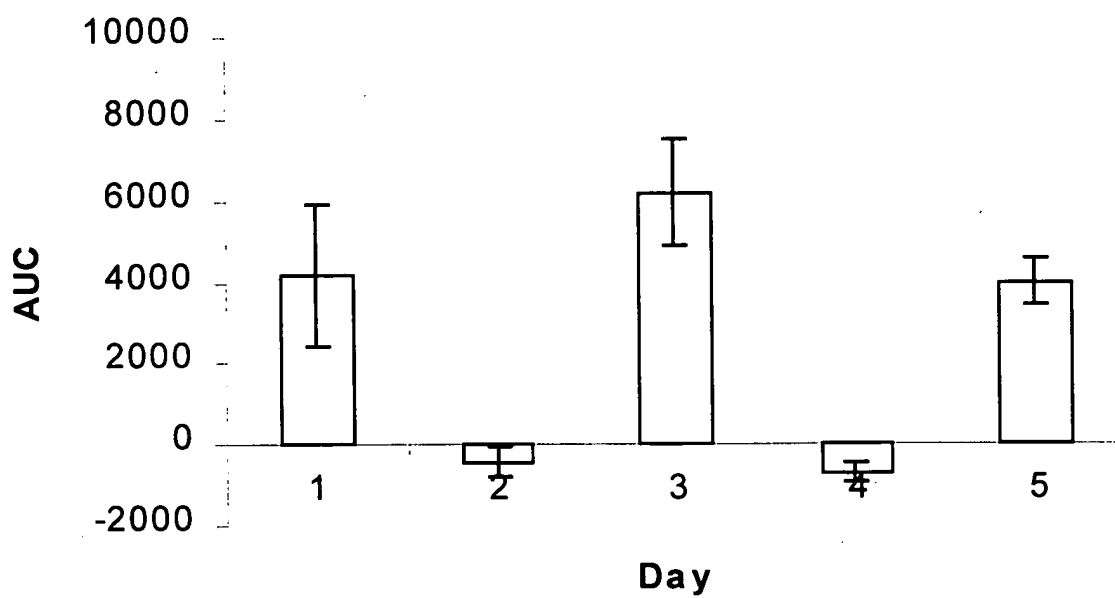


Figure 8

**1.0 ug ESP+2CD (Days1-5)- 250 pmol
RP67580 (Days 1-4) n=6**

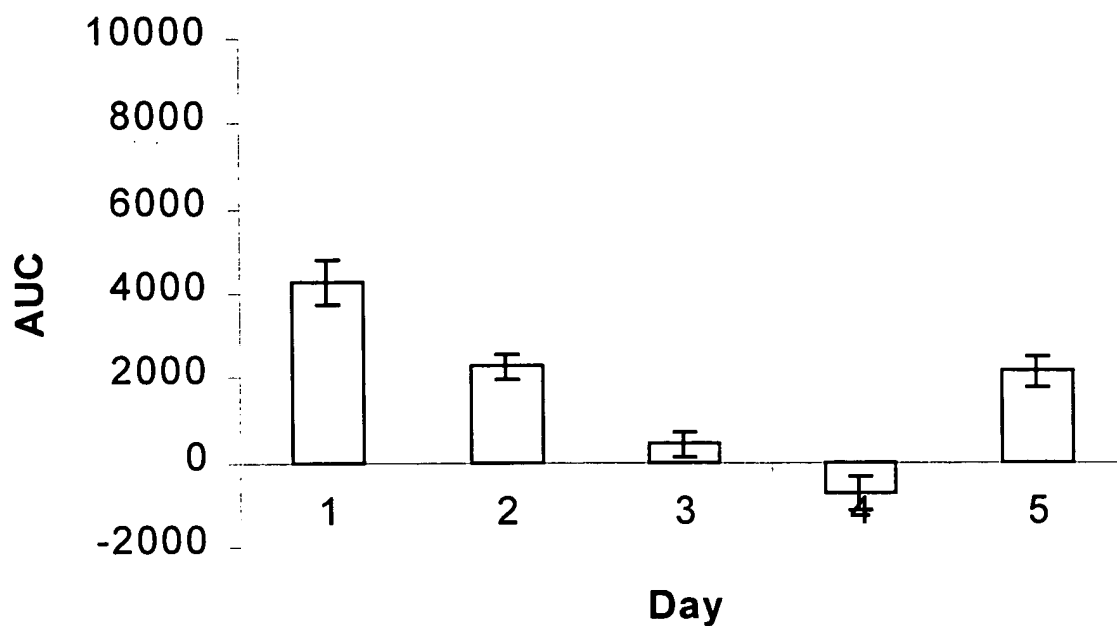


Figure 9

0.1 ug ESP7+2CD (i.c.v) n=4

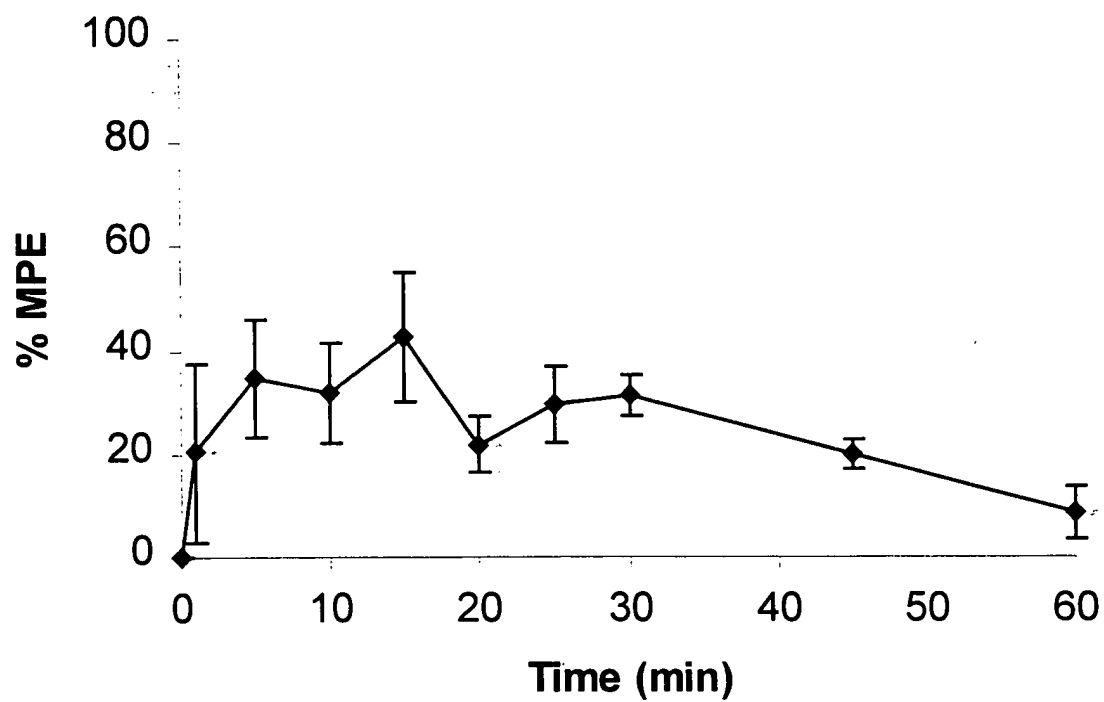


Figure 10

1 mg ESP7 (i.p.) n=7

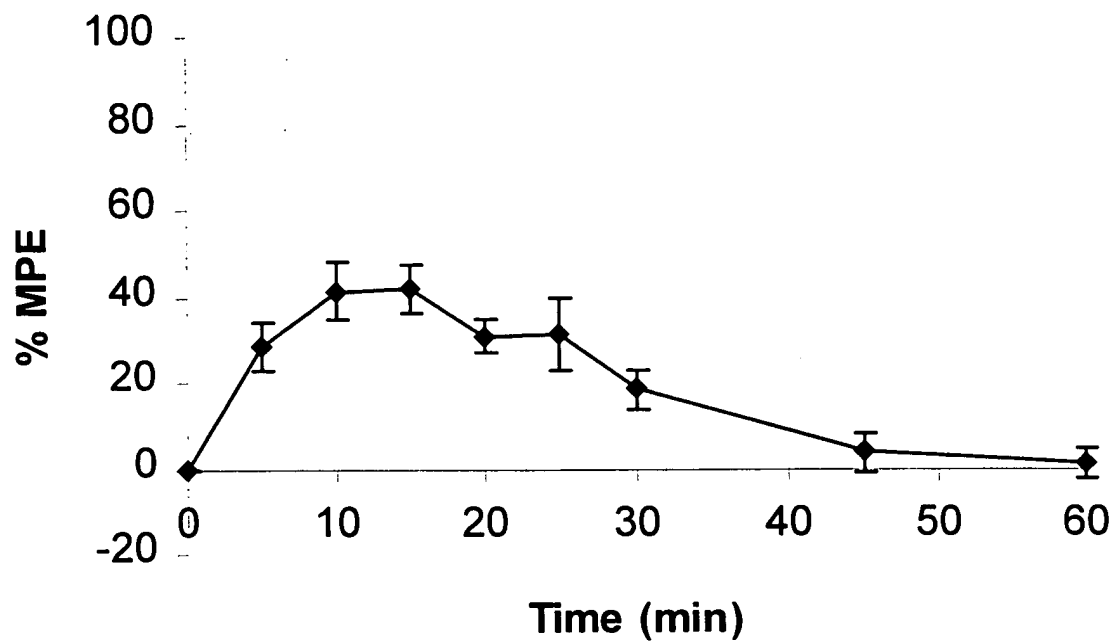


Figure 11